REMARKS

The Section 112 Rejections

Applicants have amended claims 25, 31 and 35 as indicated above. Applicants note that although these rejections have been classified as Section 112, second paragraph rejections, Applicants respectfully submit that these rejections and their related claim revisions are unrelated to the patentability of the subject matter of claims 25, 31, 35 and any other claim.

The Section 102 Rejections

Claims 1, 3-4, 16 and 36 were rejected under 35 U.S.C. §102(a) as being anticipated by Kim et al. ("Kim"). Applicants respectfully disagree and traverse this rejection for at least the following reasons.

Each of these claims requires, among other things, "engineering a plurality of viable regenerator paths" between a source and destination node.

It is respectfully submitted that Kim does not disclose or suggest the engineering of "a plurality of viable regenerator paths" as is required by claims 1, 3-4, 16 and 36. Rather, Kim discloses the selection of only a single path in order to locate signal regeneration nodes (SRNs). In particular, Kim discloses a linear placement algorithm (LPA) which selects SRNs from a source to a destination over a single light path (see, Kim, Section 3.3, page 28). There is no disclosure, or even suggestion, that a "plurality of viable regenerator paths" are engineered or otherwise selected in Kim. Accordingly, because Kim does not disclose the engineering of a plurality of viable regenerator paths, as is

required by claims 1, 3-4, 16 and 36, Kim cannot anticipate these claims. Accordingly, Applicants respectfully request withdrawal of these rejections and allowance of claims 1, 3-4, 16 and 36.

The Section 103 Rejections Based on Kim and Banerjee et al. ("Banerjee")

Claims 2, 5-9, 11, 19-20, 26-28, 30 and 34 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kim in further view of Banerjee. Applicants respectfully disagree and traverse this rejection for at least the following reasons.

As the Office Action states, Kim "does not teach constructing N valid link paths." Applicants note that the claims are directed at "n" valid link paths. That said, Applicants believe that Kim does not disclose or suggest "constructing 'n' valid link paths" or "configuring 'm' groups of viable regenerator paths" as is required by claims 2, 5-9, 11, 26-28 and 30. To overcome this deficiency, the Examiner relies on Banerjee. However, Kim nor Banerjee, taken separately or in combination, neither suggest the construction of 'n' valid link paths connecting a source node and destination node nor the configuring of 'm' groups of viable regenerator paths corresponding to a respective associated link path, as in the claims of the present invention. As was stated above, Kim is directed at selecting a single path between a source and destination node. Turning to Banerjee, the "alternate shortest paths" disclosed therein have nothing at all to do with the construction of 'n' valid link paths which are used to configure 'm' groups of viable regenerator paths. Rather, these alternate shortest paths are used as part of a linear program (LP)

formulation. This formulation is later randomly rounded and used as part of a "graph coloring" technique to minimize the number of wavelengths which are assigned to a given route. In sum, the alternate, shortest paths in Banerjee are not used to configure 'm' groups of viable regenerator paths, as is required by the claims of the present invention.

In addition, Applicants respectfully submit that there is no suggestion or motivation in Kim or Banerjee to combine one with the other. The problems of wavelength assignment and regenerator configuration are not synonymous. A technique used to assign wavelengths to a given path would not be used by one of ordinary skill in the art to assign regenerators, or vice versa. Accordingly, Applicants respectfully request withdrawal of the pending rejections and allowance of claims 2, 5-9, 11, 26-28 and 30.

Before continuing, Applicants note that they do not understand the rejection of claims 19-20 and 34 based on Kim and Banerjee. It appears to Applicants that the Office Action has erroneously lumped these claims in with claims 2, 5-9, 11, 26-28, and 30. Applicants note that claims 19 and 20 are patentable for the reasons given above with respect to claims 1, 3, 4, 16 and 36.

With respect to claim 34, Applicants do not believe that the Examiner has cited any references which disclose or suggest a method for automatically switching and routing a connection over a reconfigurable photonic network which comprises, among other things, maintaining updated information on status and operation parameters of a bank of wavelength-

converter/regenerator devices connected in stand-by at a plurality of switching nodes of a photonic network, investigating the availability of said devices to locate a device based on updated information and switching a device into a communication path according to a current performance parameter of a communication path, as in claim 34 of the present invention. Accordingly, Applicants additionally request allowance of claims 19-20 and 34.

The Section 103 Rejection of Claim 17

Claim 17 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kim.

As the Office Action states, Kim does not teach "declaring a viable regenerator path having an estimated performance parameter above a threshold as a best path," as is required by claim 17. In addition, Applicants note that claim 17 depends on claim 16 which further depends on claims 3 and 1. Applicants respectfully submit that claim 17 is patentable over Kim for the reasons given above with respect to claims 1, 3 and 16.

The Section 103 Rejections of Claims 29, 31 and 33

Claims 29, 31 and 33 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kim and Banerjee and further in view of Jukan et al. ("Jukan"). As the Office Action states, neither Kim nor Banerjee discloses or suggests "user defined performance and cost constraints", as is required by claim 29. In addition, Applicants respectfully submit that claim 29 is patentable over Kim and Banerjee for the reasons given above with respect to

claims 2, 5-9, 11, 26-28 and 30. Accordingly, Applicants respectfully request that the rejection of claim 29 be withdrawn and that claim 29 be allowed.

With respect to claims 31-33, Applicants do not understand this rejection based on Kim and Banerjee and further in view of Jukan. Nevertheless, Applicants respectfully submit that these claims are patentable over the combination of Kim, Banerjee and Jukan because these claims (as now amended) all depend on claim 26. Accordingly, these claims are patentable over the combination of Kim, Banerjee and Jukan for the reasons given above with respect to claim 26.

The Section 103 Rejection of Claim 37

Claim 37 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kim in view of Levandovsky et al. ("Levandovsky"). Applicants respectfully disagree and traverse this rejection for at least the following reasons.

Claim 37 depends on claim 36 which requires "a plurality of viable regenerator paths." As set forth above, Kim does not disclose or suggest a set of viable regenerator paths. Levandovsky does not overcome this deficiency. In addition, as the Office Action states Levandovsky does not disclose or suggest selecting an advance path or a plurality of regenerator paths serving a connection based on estimating an end-to-end performance parameter for each regenerator path and ordering said regenerator paths according to said performance parameters. It is respectfully submitted that even if Levandovsky teaches an evaluation of a path based on its bit error rate (BER), neither Kim

nor Levandovsky discloses or suggests "constructing a plurality of viable regenerator paths", as is required by claims 36 and 37.

Accordingly, Applicants respectfully request withdrawal of this rejection and allowance of claim 37.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact John E. Curtin at the telephone number of the undersigned below.

In the event this Response does not place the present application in condition for allowance, applicant requests the Examiner to contact the undersigned at (703) 668-8000 to schedule a personal interview.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY, & PIERCE, P.L.C.

By _____

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